

REMARKS

Claims 1-12 are pending.

There are no formal matters outstanding.

Applicant appreciates the telephonic interview with the Examiner and the undersigned attorney.

As reviewed during the interview, the present invention, as shown by Figures 2 and 4 of the application, provides a prism layer comprised of horizontally adjacent plural prism sheets (103 in Figure 2 and 203 in figure 4). See that the prism layer is formed of a plurality of horizontally adjacent prism sheets divided by vertical separators (claims 7 and 11) so that plurality of prism sheets are placed be respectively corresponding to display elements in a one-to-one relationship, each of which display elements is a minimum display unit forming an image (as per claim 1).

This illustrated structure is recited in claim 7 as a plurality of prism sheets divided by separators as adjacent contacting prism areas ..., **the separators ensuring that light from one display element passes only through a corresponding prism area and does not pass into any adjacent prism areas.**

See the following recitation that "each of said plurality of prism sheets includes a planar surface through which the emitted light enters as scattered light rays and a prism surface, having micro prisms with equal height, to condense the scattered light rays exiting in a vertical upward direction of

the display surface by an optical refraction function of the prism surface, the condensed light rays exiting through the prism surface." This requires that the prism sheets be horizontally adjacent with vertical separators as shown in Figures 2 and 4.

Claim 11 is similar reciting "a plurality of prism sheets each placed to correspond to the red elements, the green elements, and the blue elements of said color filter in a one-to-one relationship; and

"a display surface layer laminated on said plurality of prism sheets, wherein,

"each of said plurality of prism sheets is **divided by separators** as adjacent contacting prism areas for the corresponding red, blue, and green elements, **the separators ensuring that light** from any one element of said color filter **passes only through the corresponding prism area and does not pass into any adjacent prism areas**, and

"each of said plurality of prism sheets includes a planar lower surface through which planar surface the light enters as scattered light rays incident on an incident surface and optical paths are refracted by an optical refraction function of a prism surface to condense the scattered light rays in a vertical upward direction of the display surface, said prism surface having micro prisms with equal height."

The claim 7 and 11 recitations explicitly state one advantage of this structure, i.e., that light from any one

element of one color passes only through the corresponding prism area and does not pass into any adjacent prism area. This results in greater luminance, as disclosed on specification page 2 under Summary of the Invention.

The applied art does not teach or suggest such a structure.

Claim 1 stands rejected as obvious over WORTMAN et al. 5,771,328.

Claims 2-3 stand rejected as obvious over WORTMAN et al. in view of BIEBUYCK et al. 5,855,994 together with KING et al. 4,963,788.

Claims 4-6 stand rejected as obvious over WORTMAN et al. in view of LIND et al. 5,999,153 in view of KING et al.

Claims 7-10 stand rejected as obvious over KIM 6,019,654 in view of WORTMAN et al. and in further view of KING et al.

Claims 11-12 stand rejected as obvious over LIND et al. in view of KIM and in further view of WORTMAN et al.

These obviousness rejections rely on WORTMAN et al., taken alone or in combination with one or more other references. Each combination relies on the prism sheet of WORTMAN et al.

WORTMAN et al. does not disclose, as per in the independent claims e.g., claim 7, a "purity of prism sheets is divided by separators as adjacent contacting prism areas for each of the red, blue, and green display elements, the separators

ensuring that light from one display element passes only through a corresponding prism area and does not pass into any adjacent prism areas."

Absent this teaching of a plurality of horizontally adjacent prism sheets placed so as to be respectively corresponding to display elements in a one-to-one relationship, claim 1 cannot be said to be obvious. Further absent the teaching of the prism sheets being divided by separators into adjacent prism areas for each of corresponding red, blue, and green unit display elements, claims 7 and 11 cannot be said to be obvious.

Indeed, the claims require the plurality of prism sheets, each prism sheet placed so as to be respectively corresponding to display elements in a one-to-one relationship, each of these being a minimum display unit forming an image.

The essence of the rejection is that this one-to-one relationship is merely a duplication of parts and that there is no advantage thereof. Applicant respectfully disagrees.

The claims recite a device which comprises plural prism elements with a specific relationship that provides disclosed superior results.

The Official Action states that applicant has not established that this structural relationship provides an advantage or criticality in providing an advantageous result.

Applicant previously urged that, as per dependent claims 2 and 4, and independent claims 7 and 11, the plurality of prism sheets are each placed as non-interfering areas so as to be respectively corresponding to display elements in a one-to-one relationship, each of which is a minimum display unit forming an image of the emitting layer. The specification teaches that this structure provides an advantageous result.

See specification page 2, line 19 *et seq.*, the present invention provides an image display of advancing luminance viewed from a front face without disarrangement of the image displayed.

See specification page 3, lines 18-20, the prism surface on an exit surface allows light rays incident on the surface exit in an approximately vertical direction of the incident surface.

See specification spanning pages 4-5, display luminance can be improved without increasing luminance of the light source or power consumption. See the discussion concerning increased vertical luminance without increased light source or power.

See the top of page 5, discussing improved privacy due to narrow visibility.

Also see, in the second full paragraph of page 5, improved manufacturing process as only a prism sheet divided for each minimum display unit (dot) is laminated.

As is implicit in the *Response to Arguments* section of the Official Action, neither WORTMAN et al., alone or in any

combination with the applied references, teach this structural relationship. Any elements that could be considered as partition walls, upon which the recited separators might arguably read upon (and applicant would dispute), are not found in the prism sheet/layer.

The lack of any art that teaches the presently recited invention, particularly given the extensive work in this technology, further would urge that the recited invention is indeed non-obvious.

There being no teaching or suggestion in the prior art to arrange the elements of the inventive image display apparatus in the manner now recited, applicant believes that the claims are patentable. Accordingly, reconsideration and allowance of all the pending claims are respectfully requested.

The Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 25-0120 for any additional fees required under 37 C.F.R. §1.16 or under 37 C.F.R. §1.17.

Respectfully submitted,

YOUNG & THOMPSON



Roland E. Long, Jr., Reg. No. 41,949
745 South 23rd Street
Arlington, VA 22202
Telephone (703) 521-2297
Telefax (703) 685-0573
(703) 979-4709

REL/lk